(e.g. Intel Architecture-32 (IA-32, also known as x86), IA-32 with 64 bit extensions, x86-64, PowerPC, Sparc, MIPS, ARM, IA-64, etc.). In some embodiments, computer system **510** may include more than one processor. Moreover, processor **512** may include one or more processors or one or more processor cores.

Processor **512** may be coupled to memory **514** and peripheral devices **516** in any desired fashion. For example, in some embodiments, processor **512** may be coupled to memory **514** and/or peripheral devices **516** via various interconnect. Alternatively or in addition, one or more bridge chips may be used to coupled processor **512**, memory **514**, and peripheral devices **516**.

Memory **514** may comprise any type of memory system. For example, memory **514** may comprise DRAM, and more particularly double data rate (DDR) SDRAM, RDRAM, etc. A memory controller may be included to interface to memory **514**, and/or processor **512** may include a memory controller. Memory **514** may store the instructions to be executed by processor **512** during use, data to be operated upon by the processor during use, etc.

Peripheral devices **516** may represent any sort of hardware devices that may be included in computer system **510** or coupled thereto (e.g., storage devices, optionally including computer accessible storage medium **600**, shown in FIG. **13**, other input/output (I/O) devices such as video hardware, audio hardware, user interface devices, networking hardware, etc.).

Turning now to FIG. **13**, a block diagram of one embodiment of computer accessible storage medium **600** including one or more data structures representative of device **100** (depicted in FIG. **1**) included in an integrated circuit design and one or more code sequences representative of process **250** (shown in FIG. **4**). Each code sequence may include one or more instructions, which when executed by a processor in a computer, implement the operations described for the corresponding code sequence. Generally speaking, a computer accessible storage medium may include any storage media accessible by a computer during use to provide instructions and/or data to the computer. For example, a computer accessible storage medium may include non-transitory storage media such as magnetic or optical media, e.g., disk (fixed or removable), tape, CD-ROM, DVD-ROM, CD-R, CD-RW, DVD-R, DVD-RW, or Blu-Ray. Storage media may further include volatile or non-volatile memory media such as RAM (e.g. synchronous dynamic RAM (SDRAM), Rambus DRAM (RDRAM), static RAM (SRAM), etc.), ROM, or Flash memory. The storage media may be physically included within the computer to which the storage media provides instructions/data. Alternatively, the storage media may be connected to the computer. For example, the storage media may be connected to the computer over a network or wireless link, such as network attached storage. The storage media may be connected through a peripheral interface such as the Universal Serial Bus (USB). Generally, computer accessible storage medium **600** may store data in a non-transitory manner, where non-transitory in this context may refer to not transmitting the instructions/data on a signal. For example, non-transitory storage may be volatile (and may lose the stored instructions/data in response to a power down) or non-volatile.

Further modifications and alternative embodiments of various aspects of the embodiments described in this disclosure will be apparent to those skilled in the art in view of this description. Accordingly, this description is to be construed as illustrative only and is for the purpose of teaching those skilled in the art the general manner of carrying out the embodiments. It is to be understood that the forms of the embodiments shown and described herein are to be taken as the presently preferred embodiments. Elements and materials may be substituted for those illustrated and described herein, parts and processes may be reversed, and certain features of the embodiments may be utilized independently, all as would be apparent to one skilled in the art after having the benefit of this description. Changes may be made in the elements described herein without departing from the spirit and scope of the following claims.

What is claimed is:

1. A method, comprising:

receiving, on a user interface associated with a device comprising a computer processor and a memory, an unlock request for the device from a user;

in response to receiving the unlock request, illuminating the user with both flood infrared illumination and patterned infrared illumination;

capturing at least two images of the user using a camera located on the device while the user is being illuminated with both the flood infrared illumination and the patterned infrared illumination;

generating flood infrared image data from the at least two images;

combining the at least two images into a composite image,

generating depth map image data from the composite image; and

authorizing the user to perform at least one operation on the device that requires authentication using a facial recognition authentication process operating on the flood infrared image data and the depth map image data.

2. The method of claim **1**, wherein the flood infrared image data is generated from image data in areas of the at least two images between features in the patterned infrared illumination.

3. The method of claim **1**, wherein the depth map image data is generated by assessing a pattern on the user resulting from the patterned illumination of the user.

4. The method of claim **1**, wherein the flood infrared image data is generated separately from the depth map image data.

5. The method of claim **1**, wherein the at least two images comprise images of a face of the user.

6. The method of claim **1**, wherein the facial recognition authentication process comprises:

encoding the flood infrared data to generate at least one flood feature vector, wherein the flood feature vector represents one or more flood infrared facial features of the user in the composite image;

encoding the depth map image data to generate at least one depth map feature vector, wherein the depth map feature vector represents one or more depth map infrared facial features of the user in the composite image;

comparing the flood feature vector to one or more flood reference templates stored in the memory of the device to obtain a first matching score;

comparing the depth map feature vector to one or more depth map reference templates stored in the memory of the device to obtain a second matching score;

assessing a third matching score from the first matching score and the second matching score; and

authorizing the user to perform the at least one operation on the device that requires authentication in response to the third matching score being above an unlock threshold.